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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,960	06/20/2003	Mark W. Kiehl	I-24583	6584

27210 7590 08/11/2004

MACMILLAN, SOBANSKI & TODD, LLC
ONE MARITIME PLAZA - FOURTH FLOOR
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EXAMINER

COMPTON, ERIC B

ART UNIT PAPER NUMBER

3726

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,960

Applicant(s)

KIEHL, MARK W.

Examiner

Eric B. Compton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/24/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. 3,394,569 to Smith.

Regarding claim 6, Smith discloses a method for high velocity hydroforming tubular blanks, said method comprising the steps of:

- a. providing a die (15) having an internal die cavity (13);
- b. providing a tubular member (11) having an end;
- c. positioning said tubular member within said die cavity;
- d. tilling said tubular member with a fluid (39);
- e. discharging an electric arc (at 55) within said fluid to create a shock wave within said fluid, thereby expanding said tubular member to conform to the shape of the die cavity; and
- f. feeding said end of said tubular member into said die cavity during the expansion of said tubular member to maintain a generally constant wall thickness. See Figure 1 (arrow showing feeding force 31); Col. 2, lines 67-70 & Col. 3, lines 5-8.

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Note: A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. *In re Hiraio*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. 5,890,387 to Roper in view of Smith.

Roper disclose a method of hydroforming tubular frame members for vehicles using a die. However, the reference does not creating a shock wave to deform the tubular members.

Smith discloses a method for high velocity hydroforming tubular blanks, said method comprising the steps of:

- a. providing a die (15) having an internal die cavity (13);
- b. providing a tubular member (11) having an end;
- c. positioning said tubular member within said die cavity;
- d. tilling said tubular member with a fluid (39);

e. discharging an electric arc (at 55) within said fluid to create a shock wave within said fluid, thereby expanding said tubular member to conform to the shape of the die cavity; and

f. feeding said end of said tubular member into said die cavity during the expansion of said tubular member to maintain a generally constant wall thickness. See Figure 1 (arrow showing feeding force 31); Col. 2, lines 67-70 & Col. 3, lines 5-8.

Smith discloses that by forming with a shock wave,

The shock wave so produced is utilized to deform a workpieces, usually in a die. By regulating the charge build up on the condenser bank, the deforming force created can be precisely controlled. Thus, the amount of force can be varied such that only the amount sufficient to produce a particular design shape will be applied to the workpiece.

Col. 3, lines 28-34.

Regarding claim 1, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the tubular vehicle frame of Roper by using a shock wave, in light of the teachings of Smith, in order to precisely control the force needed to deform the tubular member.

Regarding claim 2, the Smith further includes a step of feeding an end of said tubular member into said die cavity during the expansion of said tubular member. See Figure 1 (arrow showing feeding 31).

Regarding claim 3, in Smith the said shock wave is created by discharging an electric arc (at 55) within said fluid. See Col. 3, lines 15-28.

Allowable Subject Matter

5. Claims 4-5 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach creating a shock wave within a fluid to expand said tubular member to conform to the shape of the die cavity, thereby forming a vehicle frame member, wherein the shock wave is created by rapidly advancing a piston within a fluid cylinder in communication with said fluid. See *also* Figure 4 (detailing this feature).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Compton whose telephone number is (703) 305-0240. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter B. Vo can be reached on (703) 308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Eric Compton
Patent Examiner